This is the 'plakula' theory, *invoking a flattened disc of cells (rather than a hollow ball) as the plakula stage to precede a gastraea. The theory (again of nineteenth century pedigree) was revived by Grell (1971, 1981) with particular reference to the placozoans, peculiar animals that have a dorsal layer of flagellated cells and a ventral absorptive layer with little in between.*

However, since they do have a certain amount of intervening parenchyma, it seems preferable to refer thenm to a planula grade as discussed below, and to do without the confusing plakula grade; especially as Trichoplax in fact passes through a perfectly good blastula stage to arrive at its adult morphology.

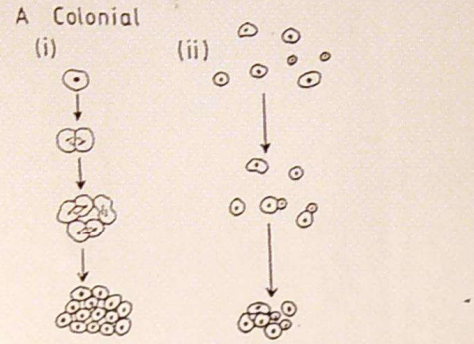

Figure1.Possible mechanism for achieving multicellularity, by aggregation of mitotically related (Ai) or possible unrelated (Aii) cells or by incomplete subdivision of single large cells (B)

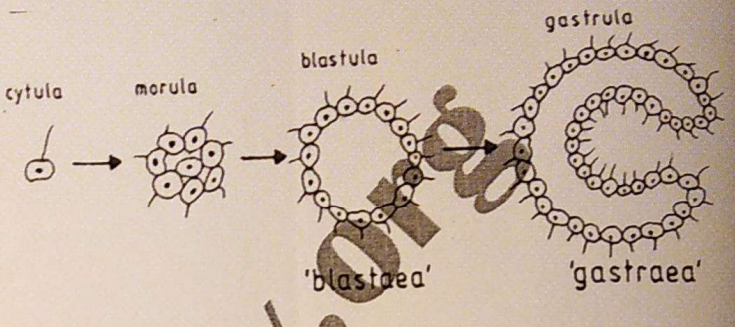

Figure2.The idealized early stages of embryology, with the Haeckelian analogies of ancestral forms as blastaea and gastraea.

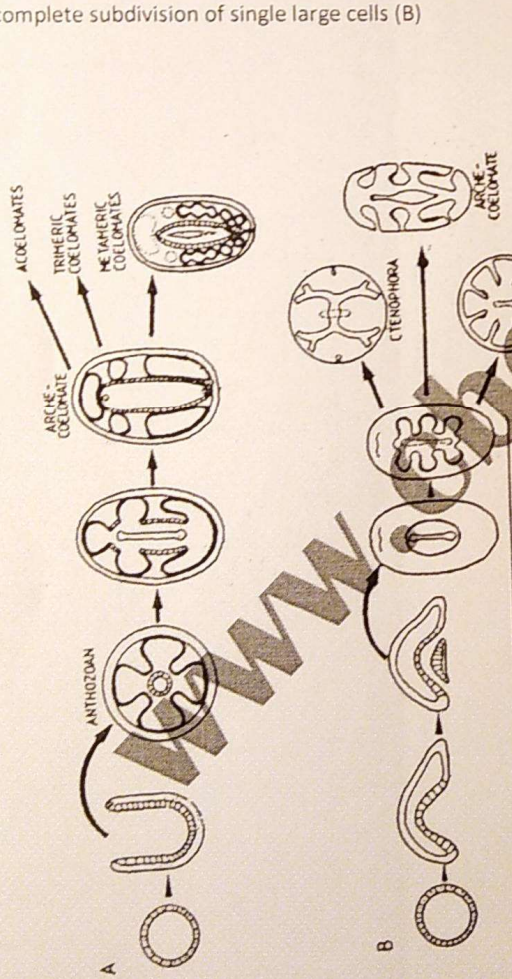

Figure3.Archecoelomate theories of metazoan origins: A.Remane's cyclomerism theory where the gastric pouches of a cnidarian are transformed into a trimeric coelomate condition. B.Jagersten's bilaterogastraea theory, where a bilateral and benthic organism gastrulates and acquires gastric (enterocoelic coelomic) pouches.

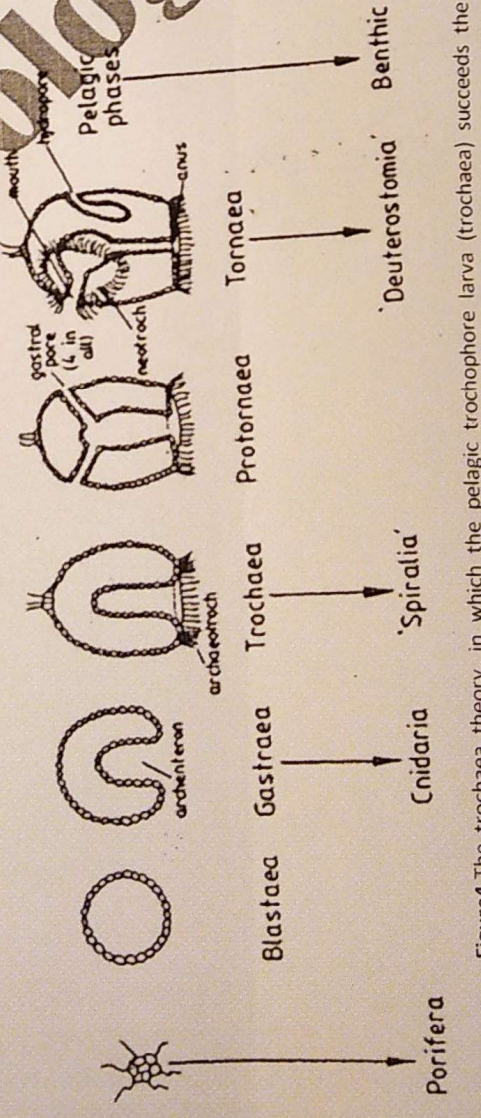

Figure4.The trochaea theory, in which the pelagic trochophore larva (trochaea) succeeds the blastaea and gastraea, to form the ancestor of spiralians and in turn gives rise to a pelagic tornaea as the ancestor of deuterostomes (Based on Nielson and Norrevang, 1985)